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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/802,446	03/16/2004	Wong Hoo Sim	006404.P018	3201

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EXAMINER

HANNETT, JAMES M

ART UNIT	PAPER NUMBER
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2622

MAIL DATE	DELIVERY MODE
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07/12/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/802,446	SIM ET AL.	
	Examiner	Art Unit	
	James M. Hannett	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 March 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31, 34 and 37-39 is/are rejected.
- 7) ☒ Claim(s) 32, 33, 35 and 36 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/16/06, 3/3/06, 3/16/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

The information disclosure statements (IDS) submitted on 3/16/2006, 3/3/2006 and 3/16/2004 have being considered by the examiner.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1: Claims 1-7, 10-15, 18-23, 25, 26, 28, 29 and 39 are rejected under 35 U.S.C. 102(e) as being anticipated by US 2003/0095193 A1 May et al.

2: As for Claim 1, May et al teaches in the abstract A digital still camera for taking still images and having a panoramic mode for creating a panoramic image, the camera comprising:
(a) a photographic imaging system for capturing a plurality of still photographic images used to form the panoramic image (Paragraph [0009]); (b) a transfer module for receiving the plurality of still photographic images to be automatically stitched together to automatically form the panoramic image (Paragraph [0030]); (c) a processor for processing the plurality of still photographic images to automatically form the panoramic image (Paragraph [0013]); and (d) a memory for storing at least one of: the panoramic image and the plurality of still photographic images (Paragraph [0012]).

3: In regards to Claim 2, May et al teaches on Paragraph [0030] the processor comprises a

stitching engine to automatically form the panoramic image.

4: As for Claim 3, May et al teaches on Paragraph [0050] wherein data of the plurality of still photographic images not used in the panoramic image is deleted upon storage of the panoramic image in the camera.

5: In regards to Claim 4, May et al teaches on Paragraph [0020] wherein the transfer module comprises the processor.

6: As for Claim 5, May et al teaches on Paragraphs [0020 and 0030] wherein the transfer module comprises the processor, the processor comprising a stitching engine to automatically form the panoramic image.

7: In regards to Claim 6, May et al teaches on Paragraph [0016] wherein a first of the plurality of still photographic images is used to set colour and light related processing for all subsequent images of the plurality of images.

8: As for Claim 7, May et al teaches in the abstract wherein each of the plurality of still photographic images has an overlap region with a previous image of the plurality of still images.

9: In regards to Claim 10, May et al teaches on Paragraph [0055] and depicts in Figure 4A wherein each of the plurality of subsequent images is tagged with a unique sequence number.

10: As for Claim 11, May et al teaches in the abstract A system for forming a panoramic image, the system comprising: (a) a digital still camera for taking still images and having a panoramic mode for creating a panoramic image, the camera comprising a photographic imaging system for capturing a plurality of still photographic images used to form the panoramic image (Paragraph [0009]); (b) a transfer module for receiving the plurality of still photographic images to be automatically stitched together to form the panoramic image, the transfer module

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comprising a processor (Paragraph [0030]); (c) the processor being for automatically processing the plurality of still photographic images to automatically form the panoramic image, the processor comprising a stitching engine to automatically form the panoramic image (Paragraph [0013]); and (d) a memory for storing at least one of the panoramic image and the plurality of still photographic images (Paragraph [0012]).

11: In regards to Claim 12, May et al teaches on Paragraph [0020 and 0030] wherein the transfer module is in a location selected from the group consisting of: the digital still camera, and a computer to which the plurality of still photographic images have been transferred from the digital still camera.

12: As for Claim 13, Claim 13 is rejected for reasons discussed related to Claim 3, since Claim 3 is substantively equivalent to Claim 13.

13: In regards to Claim 14, Claim 14 is rejected for reasons discussed related to Claim 6, since Claim 6 is substantively equivalent to Claim 14.

14: As for Claim 15 Claim 15 is rejected for reasons discussed related to Claim 7, since Claim 7 is substantively equivalent to Claim 15.

15: In regards to Claim 18, Claim 18 is rejected for reasons discussed related to Claim 10, since Claim 10 is substantively equivalent to Claim 18.

16: As for Claim 19, May et al teaches in the abstract a method for producing a panoramic image using a digital still camera, the digital still camera comprising a photographic imaging system for capturing a plurality of still images to be used to form the panoramic image, the method comprising: (a) upon the digital still camera being set in a panoramic mode, a shutter release being operated, and the digital camera being panned, the digital camera capturing the

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plurality of still photographic images(Paragraph [0009]); (b) saving each of the plurality of still photographic images in a memory(Paragraph [0012]); (c) automatically processing the plurality of still photographic images in a transfer module to automatically form the panoramic image (Paragraph [0030]); (d) saving at least one of the panoramic image and the plurality of still photographic images in the memory (Paragraph [0013]).

17: As for Claim 20, Claim 20 is rejected for reasons discussed related to Claim 12, since Claim 12 is substantively equivalent to Claim 20.

18: In regards to Claim 21, Claim 21 is rejected for reasons discussed related to Claim 12 since Claim 12 is substantively equivalent to Claim 21.

19: As for Claim 22 Claim 22 is rejected for reasons discussed related to Claim 6, since Claim 6 is substantively equivalent to Claim 22.

20: In regards to Claim 23, Claim 23 is rejected for reasons discussed related to Claim 7, since Claim 7 is substantively equivalent to Claim 23.

21: In regards to Claim 25, Claim 25 is rejected for reasons discussed related to Claim 5, since Claim 5 is substantively equivalent to Claim 25.

22: As for Claim 26, Claim 26 is rejected for reasons discussed related to Claim 5, since Claim 5 is substantively equivalent to Claim 26.

23: As for Claim 28 Claim 28 is rejected for reasons discussed related to Claim 10, since Claim 10 is substantively equivalent to Claim 28.

24: In regards to Claim 29, Claim 29 is rejected for reasons discussed related to Claim 3, since Claim 3 is substantively equivalent to Claim 29.

25: In regards to Claim 39, Claim 39 is rejected for reasons discussed related to Claim 34.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

26: Claims 8, 9, 16, 17, 24, 27, 30, 31, 34, 37 and 38 rejected under 35 U.S.C. 103(a) as being unpatentable over US 2003/0095193 A1 May et al in view of USPN 6,243,103 Takiguchi et al.

27: In regards to Claim 8, May et al teaches the use of a camera that can capture images and stitch the overlapping portions together to form a panoramic image. However, May et al is silent as to the method used for determining the overlapping positions and does not give details into the stitching method.

Takiguchi et al teaches the use of a camera that can stitch images together having overlapping portions and teaches on Column 12, Lines 40-50 that the method of stitching the images together involves calculating orientation and pan direction of the camera. Takiguchi et al teaches that this method is advantageous because it improves image synthesis.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the image synthesis process of Takiguchi et al for synthesizing the panoramic images of May et al in order to generate a panoramic image having superior image quality.

28: As for Claim 9, Takiguchi et al further teaches on Column 14, Lines 21-35 wherein the overlap region is in the range of from 5% to 50%.

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29: In regards to Claim 16, Claim 16 is rejected for reasons discussed related to Claim 8, since Claim 8 is substantively equivalent to Claim 16.

30: As for Claim 17, Claim 17 is rejected for reasons discussed related to Claim 9, since Claim 9 is substantively equivalent to Claim 17.

31: As for Claim 24, Claim 24 is rejected for reasons discussed related to Claim 8, since Claim 8 is substantively equivalent to Claim 24.

32: In regards to Claim 27, Claim 27 is rejected for reasons discussed related to Claim 9, since Claim 9 is substantively equivalent to Claim 27.

33: As for Claim 30, May et al teaches the use of a camera that can capture images and stitch the overlapping portions together to form a panoramic image. However, May et al is silent as to the method used for determining the overlapping positions and does not give details into the stitching method.

Takiguchi et al teaches the use of a camera that can stitch images together having overlapping portions and teaches on Column 12, Lines 40-50 that the method of stitching the images together involves calculating orientation and pan direction of the camera. Takiguchi et al teaches that this method is advantageous because it improves image synthesis.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the image synthesis process of Takiguchi et al for synthesizing the panoramic images of May et al in order to generate a panoramic image having superior image quality.

34: In regards to Claim 31, Takiguchi et al further teaches on Column 12, Lines 54-58 that the synthesis method determines the camera orientation and pan direction by: (a) selecting a

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plurality of suitable features in two adjacent images of the plurality of still photographic images, the adjacent images having an overlap region; (b) determining the extent of movement of the plurality of suitable features from a first of the adjacent images to a second of the adjacent images; and (c) summing the movements in two different directions.

35: As for Claim 34, May et al teaches the use of a camera that can capture images and stitch the overlapping portions together to form a panoramic image. However, May et al is silent as to the method used for determining the overlapping positions and does not give details into the stitching method.

Takiguchi et al teaches the use of a camera that can stitch images together having overlapping portions and teaches on Column 12, Lines 40-50 that the method of stitching the images together involves calculating orientation and pan direction of the camera. Takiguchi et al teaches that this method is advantageous because it improves image synthesis.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the image synthesis process of Takiguchi et al for synthesizing the panoramic images of May et al in order to generate a panoramic image having superior image quality.

Takiguchi et al further teaches on Column 12, Lines 54-58 that the synthesis method determines the camera orientation and pan direction by: (a) selecting a plurality of suitable features in two adjacent images of the plurality of still photographic images, the adjacent images having an overlap region; (b) determining the extent of movement of the plurality of suitable features from a first of the adjacent images to a second of the adjacent images; and (c) summing the movements in two different directions.

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36: In regards to Claim 37, Claim 37 is rejected for reasons discussed related to Claim 12, since Claim 12 is substantively equivalent to Claim 37.

37: As for Claim 38, Claim 38 is rejected for reasons discussed related to Claim 19.

Allowable Subject Matter

38: Claims 32, 33, 35 and 36 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James M. Hannett whose telephone number is 571-272-7309.

The examiner can normally be reached on 8:00 am to 5:00 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached on 571-272-7372. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James M. Hannett
Examiner
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JMH

July 5, 2007